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REPORT AND RECOMMENDATIONS
of the
HUMAN NUTRITION AND CONSUMER USE RESEARCH ADVISORY COMMITTEE
Developed at its 2nd Meeting
November 30-December 3, 1964
Washington, D. C.

HUMAN NUTRITION AND CONSUMER USE RESEARCH ADVISORY COMMITTEE

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PREFACE

The objectives of nutrition and consumer use research to (1) analyze consumer needs and problems, (2) determine utility and economy of goods, (3) measure levels of living, and (4) evaluate results and develop guides for maximum well-being, are designed to meet the responsibility of the United States Department of Agriculture for the production of enough food and fiber and in the proper assortment for the well-being of the Nation's citizens.

In preparation for this report the Committee reviewed progress reports and plans and needs for future research by the Agricultural Research Service divisions that conduct human nutrition and consumer use research (hereinafter referred to as NCU or NCU divisions). It also observed some research accomplishments, facilities and needs at the Agricultural Research Center, Beltsville, Maryland.

Dr. N. C. Brady, Director of Science and Education, is Chairman of the Committee; Dr. Ruth Leverton, Assistant Administrator, Agricultural Research Service, is Vice-Chairman

COMMENTS AND RECOMMENDATIONS

General

The Committee is pleased to know that the appropriation bill for the Department for fiscal year 1965 included a significant increase in funds for research in the areas of human nutrition and food economics; namely, (1) \$900,000 for the nationwide food consumption survey (2) \$250,000 for research into the nutritive composition and biological evaluation of wheat products and (3) \$587,700 for research on the effects of pesticides on the composition and nutritive value of the current food supply.

It is recommended that the Department of Agriculture seek modification of its legislative authority for nutrition and consumer use research to remove any limitation of its efforts to the needs of the rural population only. People in urban communities deserve equal consideration.

Since the ultimate user of all agricultural products is the consumer regardless of his income or where he resides, and since national studies demonstrate that the differences between rural and urban family living are disappearing, we urge:

1. Efforts to create an understanding of the essential and relevant nature of all population groups to the activities of the NCU divisions. This would include efforts to help public and private agencies at all levels to understand the pertinence and importance of NCU research findings to all segments of the U. S. population.
2. That all possible steps be taken to assure wide distribution of NCU research and educational materials to interested persons and groups; for example, nutritional information to homes for the aged. Studies for the determination of more effective dissemination and utilization of research-developed information should be made.
3. Every possible effort toward coordinating activities of NCU divisions with other USDA agencies and with other Departments of the Federal government to achieve an integrated "horizontal program approach" to all areas of mutual concern in the life sciences, family life, and human needs. We applaud efforts made to date in this line.

The Committee profited from visiting NCU laboratories at the Agricultural Research Center. We noticed with surprise that the nutrition and food science laboratories were housed in three different buildings and observed the absence of facilities for human metabolic studies. None of the present facilities was designed specifically for the type of research underway. It is necessary to bring together the human nutrition and food science laboratories to improve the efficiency of both research coordination and communication. It is also necessary

to have a common research unit to enable the staff to follow through with expanded research.

It is strongly urged that the Department give high priority to a new facility that would house all nutrition and consumer-use research and would promote efficient expanded work in food and nutrition. A metropolitan Washington location for such a facility is important in order to afford maximum opportunities for intradepartmental and inter-departmental cooperation with related research of other governmental agencies. This facility would make it possible to obtain information better defining norms for so called healthy individuals and the expansion of these facilities would facilitate collaborative research programs.

It is again strongly urged that action be taken to implement the general objectives of the very fundamental long-term program of expanded food and nutrition research described in Senate Document No. 35, 88th Congress. The Committee was pleased to note the Congressional directive to the Department to give careful attention to this program in formulating its budget request for 1966.

The advisability of constructing three additional regional laboratories at this time is seriously questioned. While the need is urgent for the construction of the central research facility in metropolitan Washington, the three new regional nutrition laboratories proposed in Senate Document No. 35 might better be delayed until more and better research personnel can be trained or retrained in university laboratories throughout the country. Funds are more urgently needed now to train personnel in advance of construction of these regional facilities.

Longer range planning by NCU in which current work programs are evaluated for implementation in terms of timeliness, emphasis, budgeting, public need and priority is recommended. Every effort should be made to improve the climate for original researches. In the interests of recruiting and holding capable scientists, independent and original researches should be encouraged if they fit into the overall objectives of the nutrition and consumer use program. The Department should guard against too rigid programming of research and unnecessary red tape in procurement of research materials, publication of manuscripts, communication with scientists outside the Department, etc.

We recommend that the Department implement a grant program for nutrition and consumer use research and seek out scientists who can contribute new approaches within the broad objectives of the overall program. Funds for extramural researches should not be used exclusively for support of contracts designed to carry out programs or projects formulated in the research divisions.

It is further recommended that every effort be made to attract capable and promising scientists to promote continuity of the NCU programs. In this regard, the Committee commends the planned efforts to upgrade

current personnel by training and by the establishment of a better scientific environment. The Committee is pleased that a Director of the Human Nutrition Research Division has been appointed and hopes it will be possible to replace current vacancies as well as increase the professional staff to maintain the existing programs and to meet the demands of more extensive programs.

We commend NCU's efforts to make available research findings in various types of publications, including those designed for use by the ultimate consumer as well as for the professional. However, we would encourage a careful evaluation of the role of the NCU divisions in the preparation of popular-type publications to see whether some other Department unit might be able to handle these, leaving more of the limited resources of the NCU divisions available for research per se and preparation of technical reports and publications for use of other professional workers. It is also suggested that continued attention be given to other methods of reaching the public, including radio and TV, again possibly with other agencies' cooperation (e.g. extension or information agency).

With reference to publications broadly speaking, we suggest consideration of: (1) an evaluation of the uses made of all presently-available NCU publications and (2) planning future publications in light of uses made, and/or evidences of needs unmet by current publication practices. Further, a new look at publication procedures is strongly urged to determine whether needed research results can be put into printed form more rapidly. There continues to be too great a lag between completion of research manuscripts and dissemination of findings.

The Committee notes with appreciation the printing of Handbook No. 8 (Composition of Foods - Raw, Processed and Prepared). The revised Handbook, as well as the cards and tape which include data for calories, protein, 5 minerals, and 5 vitamins of over 2400 food items, fulfills a great need. The publication of other vitally important material has been delayed because of insufficient funds. It is hoped that this material will be published without further delay.

It is gratifying to learn that the Department is continuing its responsibility for world leadership by extending its program to include 18 human nutrition and food economics research projects in 10 countries under P.L. 480 sponsorship. These research projects not only help the country where the research is being done, but also contribute to basic information for research in the U. S. and point out the advantage of competence of science in other countries. We recommend the continuation of cooperation of developing international programs.

Nutrition

Research with small animals and microorganisms provides useful information on the function and metabolism of nutrients which cannot be obtained from human subjects. The progress which has been made is commended, especially the development of the laboratory to study cellular metabolism. The Committee urges continuation of long term animal studies and that attention be given to the early period of growth as well as the aging process.

A considerable part of the research on human metabolism and nutrient requirements understandably has been done and needs to be continued in university laboratories. Human nutrition and consumer use research has provided essential data on nutrient content of foods and has developed analytical procedures for the determination of specific nutrients in foods and biological materials. It is commended for its continued emphasis on methodology and for its analysis of foods for specific nutrients.

The Committee recommends that with an expansion of facilities through the construction of a central research unit in the metropolitan Washington area, and an expansion of the nutrition research staff to include a physician with extensive training and experience in human nutrition, the major research effort be directed toward human rather than animal studies.

At present and in the recent past, special consideration rightfully has been given to the nutritional problems of our larger aging population. Results of these studies need to be applied, while other age groups are given special consideration. Nutrition studies of population groups in various parts of the world including the USA have pointed out, in a dramatic manner, that special attention must be directed toward improving the growth and development of preschool children. Deprivation during these critical years may result in irreparable damage to the child. It is recommended that the research staff review the current and projected research plans of various agencies for the study of the nutritional needs of this particular age group as a basis for developing plans for research so needed for the preschool child.

Food Science

The Committee endorses and recommends continuation of compilations of food constituents as presented in the widely used "Tables of Food Composition," with the addition of information on further nutrients and processed foods as data become available.

Present research to develop procedures for food use in family households should be extended to provide information on food uses for food service units such as nursing homes and homes for the aged. Of particular urgency is the need for research to provide recommendations for household storage of raw and cooked foods, to ensure safe and palatable products. Information is needed on refrigerator storage of all foods and particularly meat and poultry products.

We are pleased to learn that the Department has outlined exploratory work on the effect of pesticides in foods and hope that this work can be extended to include other food components or additives (such as phytates and other metal complexors, antioxidants, anti-metabolites, etc.) which could affect palatability or nutritive value. It is suggested that, if appropriate in the development of a research program on the effects of pesticides on the nutritive value of food, the staff consider the possibility of using teratological changes in animals as a sensitive index for biological evaluation.

It is hoped that basic food science researches which could result in a better understanding of palatability and nutrient changes will be emphasized. This could apply particularly in the recruitment of new scientific personnel.

Food Consumption and Diet Appraisal

The Committee is gratified to note that plans are well underway to implement the 1965 national food consumption survey. Information collected through surveys at 10-year intervals is not available from other sources and is of importance to many government and non-profit agencies, educators, and the business community. The additional data to be collected in this survey, such as individual food practices of various family members, will be especially valuable.

It is further urged that there be immediate planning for special purpose surveys to obtain much needed data not feasible to collect in the nationwide survey. Food consumption studies in Alaska and Hawaii should have priority consideration.

There is also an urgent need for food consumption studies of low-income and poverty-stricken families in both rural and urban areas. Consideration should be given to structuring these surveys to obtain information as to cultural food habits of particular population groups.

Studies of motivational forces as they affect all items of consumption, but especially as they affect food consumption, are urgently needed. To identify these motivational influences and to quantify them where possible, as well as to explore the interrelationship among the many varied situational forces affecting human choices, requires an interdisciplinary approach. The Committee suggests the appropriateness of moving ahead with interdisciplinary studies of motivational and attitudinal factors affecting food consumption (possibly other areas of consumption, too). These should involve other agencies and such disciplines as home economics, education, psychology, anthropology, sociology, nutrition, and economics.

Because of changing social policies and attitudes, the basic concepts used in developing food plans should be reviewed and modified. The low cost food plan, as currently developed, explicitly states that this diet plan provides not only for little or no plate waste or food discard, but also expects the homemaker to be knowledgeable in the areas of food

marketing and preparation. The low cost food plan is used extensively in programs directly related to low income families. Thus these families, who also have the least education in the areas of food marketing and preparation, are expected to be the most able.

The Committee urges continued cooperation with the Interagency Committee on Nutrition Education in sponsoring the important 1967 National Nutrition Education Conference. It is hoped that the conference will give increased emphasis to presenting newer methods of nutrition education which will be of help to leaders who work with specific population groups such as preschool children, teen-agers, adults, families in low socio-economic areas, etc. This conference should be planned and carried out through a broad interdisciplinary approach.

Family Economics and Rural Living

The Department is commended for the consumer expenditure studies and the interdepartmental approach used in them. These research data are vital to a multiplicity of agencies, both governmental and non-governmental. They are used in determining program plans, operations, and expenditures. The actual and potential uses of findings from these studies affect all consumers, regardless of their income or place of residence. It is imperative that results from this essential research be made available to all users as soon as possible.

The publication, Family Economics Review, is deemed to be a basic document by many educators, administrators, and persons responsible for program development in health and welfare agencies. We heartily endorse the increased distribution of this valuable publication.

As population expands and changes, leaders and the consumers they serve must be supplied with family economics research data. Therefore, studies must be increased in number and depth to meet these expanding needs and to help solve the Nation's complex problems pertaining to the wise use and distribution of foods.

The Committee reaffirms the immediate need for expenditure and consumption studies pertaining to low income and aged families. Adequate information about such families is crucial to effective programming by educational, social, health, and economic agencies and the business community.

We repeat our request for inventory and expenditure data pertaining to clothing and household linens. Families continue to devote more than 16 percent of their total expenditures for these items. The Committee applauds the Department for the food plans that have multiple uses in all 50 States and similar data pertaining to clothing and linens and to the maintenance and replacement costs of household equipment are essential. No other governmental agency is equipped to perform this type of research.

The Department's leadership role in family economics research programs and its recognition of this field is commended as basic not only to the agricultural program but to the health and well-being of all families and to the good of our total economy.

Clothing and Textiles

The Committee fully supports work on foot measurements and further recommends that the body measurement studies of women and children conducted by the Department in the 1930's be updated and extended to include the elderly and preschool children. It is further recommended that the advisability of extending body measurements to ethnic groups and adult males be determined, based on information gathered from literature searches or other sources.

Factors affecting the removal of particulate soils in home laundering should be investigated. However, before actual work is begun, it is suggested that all available information on the subject be obtained from industry sources.

Housing and Household Equipment

Emphasis for family housing studies should be changed from interior space planning to a broader base of environment for human occupancy and family living to include individual as well as group needs. Therefore, studies and measurements should be undertaken to determine an objective base for criteria of minimum environmental levels for human shelter. The absolute minimum of environmental requirements should be established for the migrant family and, in this regard, priority of housing needs and housing types should be developed for future project guidance. From these data, experimental designs and tests may be undertaken to demonstrate the direction and types of shelter and housing required to meet standards suitable to the public need, i.e., migratory, handicapped, geriatric, etc.

It is recommended that the Agricultural Engineering Research Division concern itself with the more basic problems of materials and structural systems to meet economic design requirements of shelter needs as defined by studies of environmental needs for human occupancy and family living. Exploratory engineering work in the structural utilization of surplus commodities should be investigated for technical and economic feasibility.

The economics of housing logistics in terms of land, labor, materials, and finance are interrelated factors in housing costs. Therefore, it is highly urged that the disciplines involved in these areas of specialization be integrated throughout any programs relating to the development of various new housing types.

The Committee endorses the continued development of guidelines for the effective use and functioning of food-related household equipment. The

increased use of built-ins is one indication of this need. Besides representing a sizable investment, built-ins may limit flexibility or require additional expense in terms of replacement.

An expanded and overall program for research in the development of performance criteria of household equipment is needed. The relationship of human and functional factors in the establishment of criteria should receive major consideration. An overall program with definition of criteria would provide a basis for establishing priorities in terms of all consumers' needs. Information to serve the needs of the elderly, handicapped users, and other special groups may well be obtained as such factors as safety in operation are investigated under the variety of conditions of normal use.

Continued efforts in providing information to consumers are encouraged.

